

**REPORT AND RECOMMENDATIONS
ON
LOW VOLTAGE COMMUNICATIONS INSTALLATIONS**

PREPARED BY

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FOR THE

DEPARTMENT OF LABOUR

**THE HONOURABLE RUSSELL MacKINNON
MINISTER OF LABOUR**

**KEVIN McNAMARA
DEPUTY MINISTER**

- AND FOR THE -

**DEPARTMENT OF EDUCATION AND CULTURE
APPRENTICESHIP TRAINING DIVISION**

**THE HONOURABLE ROBERT HARRISON
MINISTER OF EDUCATION AND CULTURE**

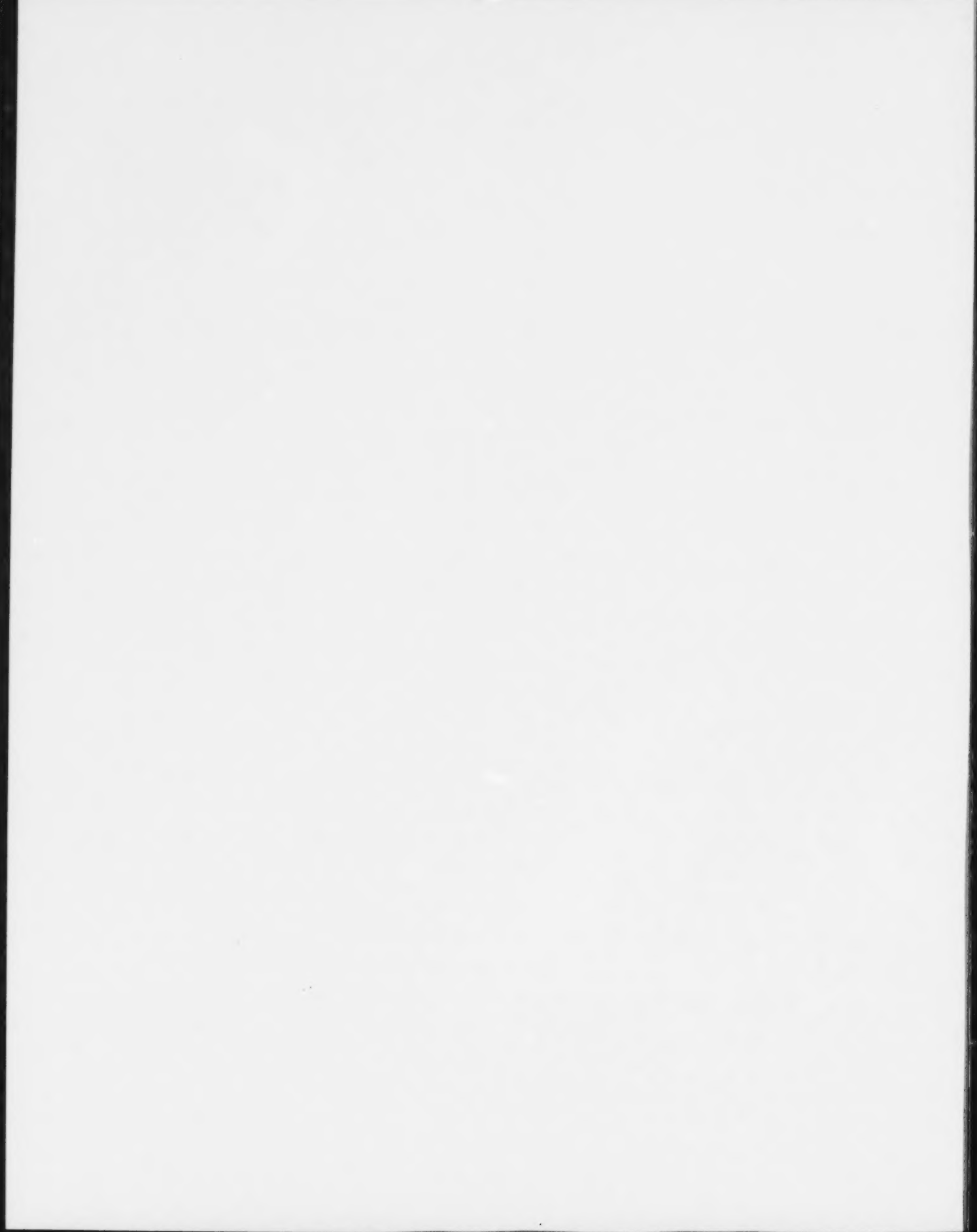
**LLOYD GILLIS
DEPUTY MINISTER**

November 30, 1998



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INTRODUCTION

This Report has been prepared in accordance with Terms of Reference (Appendix A) established by the Department of Labour and the Department of Education and Culture of the Province of Nova Scotia

These Terms of Reference sought advice concerning the current legislative framework governing the installation of low voltage communication systems.

At present in Nova Scotia, a wide variety of communication systems are being installed in existing buildings and in new construction. Many of those installations are being done by specialized computer and cable companies who use their own technicians.

These systems require electricity, albeit at low voltages, to operate. It is arguable that under the current state of the legislation governing electrical installations, those systems can only be installed by certified Construction Electricians.

This Report, under its Terms of Reference, shall attempt to review the existing regulatory scheme and make recommendations. The Department of Labour and the Department of Education and Culture wish to ensure that all such low voltage communication installations are carried out in a safe and competent manner.

The Terms of Reference were prepared after a careful review of existing electrical industry legislation was undertaken by a committee of individuals associated with the electrical industry. That Working Committee was chaired by the Chief Electrical

Inspector of the Province of Nova Scotia. It met on seven occasions during 1997 and 1998 to review various regulatory issues in the electrical industry.

One of the items that was discussed at considerable length during those meetings was the installation of low voltage communication systems.

The results of those deliberations was a report of the Committee (Appendix B).

The objective of this Report is to provide recommendations to ensure that Nova Scotians receive safe and competent installations of low voltage communication systems.

THE METHODOLOGY

In accordance with the requirements of the Terms of Reference, a number of interested parties were identified by the Department of Labour and the Department of Education and Culture. Each of these was contacted and requested to make written submissions.

These initial contacts led to the identification of other parties who expressed an interest in making submissions. They were also accorded that opportunity.

Following receipt of written submissions, all parties were provided the opportunity of supplementing those documents with direct verbal presentations. Many of those interested in these issues availed themselves of that opportunity.

To further broaden the opportunity for constructive dialogue, all submissions received were circulated for evaluation by the others. This resulted in additional written submissions.

All of the written and oral submissions have proven to be of considerable assistance in identifying and assessing the issues to be addressed.

A summary of the submissions received is set forth in Appendix D. This summary is not intended to be an exhaustive recitation of the submissions but is a brief précis of each. The summaries are provided to illustrate the wide range of views on the issues under consideration.

THE EXISTING REGULATORY SCHEME

At the present time in Nova Scotia, the *Electrical Installation and Inspection Act* defines a number of terms including the term "electrical installation" (Section 2(e)). That definition does not differentiate between installations of different voltages.

Under the *Electrical Code Regulations* applicable in Nova Scotia, a permit is required to perform an electrical installation. The permit can only be issued to an electrical contractor who is a certified Construction Electrician (subject to certain limited exceptions) or who employs certified Construction Electricians..

That obligation arises out of certain provisions of the *Canadian Electrical Code*. All of the provisions of the *Canadian Electrical Code* have been adopted by the Province of Nova Scotia through the operation of Section 2 of the Regulations made under the *Electrical Installation and Inspection Act*.

Section 60 of that Code (attached hereto as Appendix C) covers the installation of electrical communication systems. That work is the focus of this Report.

In Nova Scotia, the inspection function is carried out under the direction of the Fire Marshal and the Chief Electrical Inspector under the provisions of the *Electrical Installation and Inspection Act*. The inspection function has been delegated by those authorities to qualified inspectors employed by Nova Scotia Power Incorporated.

As a result of the interrelationship between the *Canadian Electrical Code* and the *Electrical Installation and Inspection Act*, it has been suggested by some that the installation of a low voltage communication system in the Province of Nova Scotia is an electrical installation. Accordingly, it follows that such an installation can only be done by certified journeymen or apprentice Construction Electricians.

Certification is administered by the Department of Education and Culture under the *Apprenticeship and Trades Qualification Act*.

However, in fact many low voltage communication installations are done by persons who are not certified Construction Electricians. Part of the reason for this historically is that many of those installations have been done by Maritime Telegraph and Telephone Company, Limited, a public utility specifically exempted from the permit and inspection requirements of the *Canadian Electrical Code* and the *Electrical Installation and Inspection Act*.

Deregulation in the telecommunications industry has led to a substantial growth in the number of companies interested in providing installation service to Nova Scotians. Many of these companies employ technicians who have been specifically trained to install low voltage communication systems. Often these individuals are not certified Construction Electricians.

It should be noted that although the Terms of Reference for this study specifically refer to the installation of communication systems, low voltage installations include many types of systems that depend upon electrical power to operate.

A particular building may include fire alarm systems, nurse call systems, energy management systems, communication systems, sound systems, emergency lighting systems, battery systems, emergency standby systems, security systems, and elevator installations, to name just a few.

ASSESSMENT OF THE ISSUES

As is evident from a reading of the summary of written and verbal submissions set out in Appendix "D", views with respect to the resolution of the issues pertaining to the installation of low voltage communication systems are very divergent.

Several commentators have characterized this matter as being in reality a fight over work jurisdiction at a time when unemployment in the construction industry is high. Indeed, one commentator suggested that many of the submissions put forward were essentially self-serving.

Regardless of whether we accept such characterizations, it became clear at an early stage of these deliberations that the objective of forging a consensus among the stakeholders could not be achieved.

To that end, the focus of the study has been to attempt to find a positive and creative mechanism to ensure that Nova Scotians receive safe and competent workmanship in the installation of such low voltage communication systems.

Under the present regulatory regime, some argue that all communication systems, to the extent that they fall within the scope of the *Canadian Electrical Code*, must be installed by Construction Electricians certified under the provisions of the *Apprenticeship and Trades Qualifications Act*.

However, it is equally clear that many installations of communication systems have been done by persons who do not have the requisite trades qualifications under the *Apprenticeship and Trades Qualifications Act*.

The question is whether installations of low voltage communication systems being done by uncertified persons raises a concern for public safety.

Our consultations with the Fire Marshal and the Chief Electrical Inspector have provided assurance that the safety issues arising out of these installations can be addressed with a system of proper training.

This review has further identified the rapid evolution of the technology related to the installation of communications systems in recent years. It is now essentially a "plug-in" technology. There is little about the industry which can be characterized as intrinsically electric, other than the fact an electric circuit is used to operate the equipment once installed.

To that end, it seems clear that the present uncertainty with respect to whether these installations must be installed by Certified Electricians must be addressed and clarified.

In Ontario, that was done by a decision to exempt from the provincial electrical code regulations all of the areas covered by Section 60 of the *Canadian Electrical Code*. However, no additional regulatory regime was put in place. These installations are essentially unregulated in that jurisdiction.

This Report has concluded, after careful evaluation of the various submissions, that a lack of Construction Electrician certification in low voltage communication systems should not cause a concern for public safety if the work is performed by well-trained and competent persons.

We have been assured by many of the submissions that the non-certified tradespersons engaged in the installation of low voltage communication systems have received comprehensive training and are fully aware of both safety and quality control

issues. However, it would appear appropriate to establish a regulatory regime to permit on-going monitoring of this industry.

This will protect Nova Scotian consumers and will assist the industry in achieving its objectives of providing excellent service in a competitive marketplace.

At the outset, we must remove the ambiguity with respect to whether, under the current regulatory regime, the work can only be performed by certified Construction Electricians.

To that end, the first recommendation of this Report is that the work of installing low voltage communication systems be designated specifically as work to be done by a new certified occupation referred to as a Network Cabling Specialist.

RECOMMENDATION ONE:

- (a) **A new occupation be certified by the Province of Nova Scotia to be referred to as a Network Cabling Specialist.**
- (b) **This position be authorized by Regulation to perform the installation of communication systems covered by Section 60 of the *Canadian Electrical Code*.**

It is important to ensure that appropriate training standards are put in place so that the installation of these systems is done by competent persons who have completed a defined curriculum of training.

Having established a new position of Network Cabling Specialist who is specifically certified and permitted by Regulation to perform the Section 60 work, it is necessary to establish benchmarks for competencies and certification.

Curriculum standards for the position of Network Cabling Specialist have been developed through a joint effort of the Ministry of Education for the Province of Ontario and Algonquin College. These Standards have been reviewed with representatives of the Nova Scotia Department of Education and Culture and representatives of the Department of Labour who advise that the Standards are comprehensive and well done. They are attached as Appendix "F".

As can be seen in the proposed model of Curriculum Standards, both academic requirements and practical training are proposed. They include the following competencies:

- safety
- materials
- tools
- media
- electronics
- troubleshooting
- cable paths
- voice
- data
- fiberoptics
- planning and priorities.

Implementing and utilizing such a training and certification program, based as it is on comprehensive benchmarks developed in part in Ontario, will facilitate the interprovincial mobility of persons who achieve certification.

It will also place Nova Scotians in the forefront of this highly competitive industry - ensuring safe, quality installations throughout the Province.

It is felt that, with certain additions to address specific Nova Scotia concerns, those Standards would form the basis for an excellent program of training and practical experience leading to certification as a Network Cabling Specialist.

The Department of Education and Culture would be the appropriate authority to act as the Registrar to accept applicants for training, monitor and approve the delivery of the training and set and evaluate the certification examination. Initial funding for the establishment of the training programs will require budgetary commitments.

This would also ensure compliance with the spirit and intent of the *Licences, Permits, Registrations and Certifications Act*, S.N.S. 1997, c.2.

RECOMMENDATION TWO:

- (a) A training curriculum be developed similar to the attached Curriculum Standards proposed for a Network Cabling Specialist.
- (b) That program of study would entail both in-school training and practical experience under the direction and control of the Apprenticeship Training Division of the Department of Education and Culture.
- (c) Participants and/or their employer sponsors would be responsible for costs associated with their training.

It is recognized that low voltage communication installers and Certified Electricians who are currently performing work covered by Section 60 of the *Canadian Electrical Code* should receive recognition for their already acquired experience and training. To that end, this Report recommends a provision to recognize previously acquired skills.

RECOMMENDATION THREE:

- (a) Existing low voltage communication installers and Certified Electricians will receive appropriate recognition for prior experience and training.
- (b) Such persons would be required to successfully pass a certification examination set by the Apprenticeship Training Division of the Department of Education and Culture for the designation of Network Cabling Specialist.

There has been a history of very successful consultation between the Department of Education and Culture and industry representatives during the certification process. Representatives of industry have been an integral part of the development of appropriate standards. It is recommended that this form of consultation continue.

RECOMMENDATION FOUR:

Industry and government should co-operate on the development of the training and curriculum standards leading to the certification of the position of Network Cabling Specialist.

Ensuring that the installation of communication systems in Nova Scotia would now be performed by persons certified by the Province of Nova Scotia as Network Cabling Specialists will address issues pertaining to the competence of the persons installing low voltage communication systems.

However, a mechanism needs to be developed to ensure that contractors engaged in the communication installation industry are employing certified Network Cabling Specialists and are doing those installations in a manner acceptable to the Department of Labour.

That requires the establishment of a permit and inspection system which forms the basis of the fifth recommendation of this Report.

RECOMMENDATION FIVE:

- (a) **The Department of Labour, through the Fire Marshal's office, should establish a low voltage communication installation permit system. These permits would be issued under an amendment to the permit granting power of Section 4 of the *Electrical Code Regulations*.**
- (b) **The Department would issue permits to contractors who are Network Cabling Specialists or who employ such persons and who are involved in the installation of low voltage communication systems.**
- (c) **The permit system would generate revenue through fees to ensure full cost-recovery of the permit granting and inspection functions performed by the Department of Labour.**

Establishing a permit and inspection system closes the loop that presently is left open in Ontario. In that Province, the only action taken was to remove communication systems installations as covered by Section 60 of the *Canadian Electrical Code* from government regulation.

Consultation with the communication installation industry has revealed that those involved in the industry are prepared to accept a regulatory environment as long as it recognizes the unique features of this industry. Establishing a permit and inspection system through the Fire Marshal's office will ensure that installations are done in a safe and competent manner.

RECOMMENDATION SIX:

- (a) Installations of low voltage communication systems shall be inspected by persons approved by the Fire Marshal.
- (b) The Department of Labour, through the Fire Marshal's office, shall continue to have the power to delegate the inspection function to persons approved by the Fire Marshal.
- (c) Initial funding for the establishment of the permit granting and inspection functions will require budgetary commitments.

At this point, it would be useful to set forth a proposed amendment to the Regulations made pursuant to the *Electrical Installation and Inspection Act* that would lead to the implementation of these recommendations. The specific Regulation to be amended is Regulation 4.

The proposed revised Regulation could read as follows:

4. (1) No permit shall be issued pursuant to the Code, with the exception of matters covered by Section 60 of the Code, by an inspection department except to an electrical contractor, as defined in the Code, who

(a) is an electrician and holds, or has in his employ an electrician who holds, a valid Certificate or Restricted Certificate of Qualification in the Electrical Construction Trade issued under the authority of the Apprenticeship and Trades Qualifications Act provided that, in the case of a Restricted Certificate, the work to which the permit relates is of the class of work authorized by the Restricted Certificate; or

(b) employs an electrician and is the owner or occupant of any industrial, commercial or other establishment where electrical installation work of a routine nature and connected with the maintenance or operation of the establishment is required to be performed at frequent intervals.

(2) A permit issued to an electrical contractor mentioned in clause (b) of subsection (1) may be for a term of one year provided that the electrical contractor keeps a record of all work performed and the record is made available for inspection.

(3) The inspection department that issues a permit of the kind described in subsection (2) shall inspect the industrial, commercial or other establishment at least once in each year for which the permit is issued.

(4A) (1) No permit shall be issued with respect to matters covered by Section 60 of the Code by an inspection department except to a contractor who performs work covered by Section 60 of the Code, and who

(a) is a Network Cabling Specialist certified by the Province of Nova Scotia; or

(b) employs a Network Cabling Specialist and is the owner or occupant of any industrial, commercial, or other establishment where work covered by Section 60 of the Code is required to be performed at frequent intervals.

(2) A permit issued to a contractor performing work covered by Section 60 of the Code mentioned in clause (b) of subsection (1) may be for a term set out by Regulation provided that the contractor keeps a record of all work performed and the record is made available for inspection.

(3) The inspection department that issues a permit of the kind described in subsection (2) shall inspect the industrial, commercial or other establishment for which the permit is issued.

In addition, any Regulation pertaining to inspections would now have to include a reference to contractors performing work covered by Section 60 of the *Canadian Electrical Code* (such as the present Regulations 5 and 6).

It is the effect of the recommendations of this Report that low voltage communication systems will be installed by persons who are certified as Network Cabling Specialists and are qualified to perform the work in question in a safe and competent manner. Their work will be subject to inspection.

Detailed regulations will be developed by the Fire Marshal's office to address specifics such as the system of applying for and receiving permits and the creation of the inspection authority. This can be accomplished under the very broad regulatory authority found in Section 6(1) of the *Electrical Installation and Inspection Act*.

While the *Electrical Installation and Inspection Act* may appear to imply that every installation must be inspected, other provinces have adopted systems based on experience ratings or an auditing system for the conducting of inspections. That would appear to be an appropriate regulatory option.

There will also have to be a transitional period for the development and implementation of these recommendations. That is the basis for the next recommendation.

RECOMMENDATION SEVEN:

- (a) To permit the implementation of these recommendations in a timely manner, those currently involved in the installation of low voltage communication systems in the Province of Nova Scotia should be given a period of twelve (12) months from the coming into effect of the Regulations during which they will be given the opportunity of having their employees acquire the certification of the Network Cabling Specialist.
- (b) The permit and inspection system should be implemented as quickly as possible.

It is acknowledged that some issues of detail will need to be addressed under the auspices and direction of the Department of Labour. One issue is when a permit will be required and, in accordance with past practice, will be dealt with in consultation with industry.

Those consultations will undoubtedly lead to specific exemptions from the requirement to obtain a permit. Suggested exemptions that have been put forward include installations in single family residences and cable television installations.

RECOMMENDATION EIGHT:

- (a) **The Fire Marshal's office shall have the final authority to decide when permits and inspections are required pursuant to Regulations. That decision should be made in consultation with representatives of the communications industry and should take into account the types of installation and the costs associated with the work in question.**

Although not specifically within the purview of this Report, it is suggested that the current certification proposal of the security and alarm industry presently before the Minister of Education and Culture be approved.

The recommendations set forth in this Report should enable the Province to establish a self-funding regulatory regime designed to ensure safe and competent installations of low voltage communication systems for all Nova Scotians.

Respectfully submitted,

Gregory I. North, Q.C., C.Arb.

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION ONE:

- (a) A new occupation be certified by the Province of Nova Scotia to be referred to as a Network Cabling Specialist.
- (b) This position be authorized by Regulation to perform the installation of communication systems covered by Section 60 of the *Canadian Electrical Code*.

RECOMMENDATION TWO:

- (a) A training curriculum be developed similar to the attached Curriculum Standards proposed for a Network Cabling Specialist.
- (b) That program of study would entail both in-school training and practical experience under the direction and control of the Apprenticeship Training Division of the Department of Education and Culture.
- (c) Participants and/or their employer sponsors would be responsible for costs associated with their training.

RECOMMENDATION THREE:

- (a) Existing low voltage communication installers and Certified Electricians will receive appropriate recognition for prior experience and training.
- (b) Such persons would be required to successfully pass a certification examination set by the Apprenticeship Training Division of the Department of Education and Culture for the designation of Network Cabling Specialist.

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Industry and government should co-operate on the development of the training and curriculum standards leading to the certification of the position of Network Cabling Specialist.

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- (c) The permit system would generate revenue through fees to ensure full cost-recovery of the permit granting and inspection functions performed by the Department of Labour.

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- (a) To permit the implementation of these recommendations in a timely manner, those currently involved in the installation of low voltage communication systems in the Province of Nova Scotia should be given a period of twelve (12) months from the coming into effect of the Regulations during which they will be given the opportunity of having their employees acquire the certification of the Network Cabling Specialist.
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APPENDIX "D"

SUMMARY OF SUBMISSIONS

TAB DESCRIPTION

(1) Department of Labour

Commentators: Robert Cormier, Fire Marshal
Dale Bennicke, P. Eng.
Chief Electrical Inspector

(2) Department of Education and Culture

Commentator: Joseph Black, Acting Director
Apprenticeship Training

(3) Nova Scotia Power Incorporated

Commentator: David Clements, CEI, CET
Chief Electrical Inspector,
Engineering & Maintenance

(4) Maritime Telegraph and Telephone Company, Limited

Commentators: D. D. (Don) MacDonald, P. Eng.
Regulatory Matters
Cynthia Robertson, Vice President, CCL
Bruce Heggie, Regulatory Advisor
Janine Mutch, Regulatory Advisor

(5) Construction Association of Nova Scotia

Commentators: Carol MacCulloch, President
Donald Hiltz, Electrical Contractor
Glen Hines, Telecommunications Contractor

**(6) International Brotherhood of Electrical Workers,
Local Unions 625 and 1852**

Commentators: Fern J. Tardif, Business Manager and
Financial Secretary, Local 625
Gerry Shanahan, Business Manager, Local 1852

(7) Nova Scotia Telecommunication Contractors Association

Commentators: Sean Kersey, Vice President, Fibretek Inc.
Neil W. Chambers, Atlantic Netcom
Glen Hines, Dramis Network Cabling Ltd.

(8) Building Industry Consulting Services, International (BICSI)

Commentator: Ronald G. Provost, RCDD
BICSI Governmental Relations Representative

(9) The Canadian Alarm and Security Association - Atlantic Chapter

Commentators: A. H. (Sandy) Hislop, President
Don Small, Vice President
Joseph Power

**(10) National Electrical Contractors Association - Electrical Section
of the Construction Association of Nova Scotia**

Commentators: Jeremy A. Fry, General Manager
Atlantic Region, Ainsworth Atlantic
Gary W. Jennex, G.S.C.
General Manager, Able Electric Ltd.
Claude Peach, President, Lynk Electric

**(11) The Nova Scotia Homebuilding Association -
Technical Research Committee**

Commentator: Paul A. Pettipas, Chairperson

(12) Halifax Cable

Commentator: Lee Bragg

(13) **Access Communications Inc.**

Commentator: David Cragg, P. Eng.
Vice President, Engineering
and Business Development

(14) **International Union of Elevator Constructors, Local 125**

Commentator: Garland Ingraham, Business Representative

(15) **Atlantic Communication and Technical Workers Union**

Commentator: Carl Simpson, Business Manager (former)

(16) **International Brotherhood of Electrical Workers, Local 1928**

Commentator: Gordon F. Keeling, Business Manager

(17) **Western Electrics Ltd.**

Commentator: Tibor Berta

(18) **Doug Landry**

Member of the Working Group on Quality Control of Electrical Installation

(19) **Keltic Incorporated**

Commentator: James R. Thompson, Executive Vice President
and Chief Operating Officer

1.

DEPARTMENT OF LABOUR

COMMENTATORS: ROBERT CORMIER, FIRE MARSHAL
 DALE BENNICKE, P. ENG.
 CHIEF ELECTRICAL INSPECTOR

Mr. Cormier and Mr. Bennicke provided an excellent background review of how issues have arisen with respect to low voltage electrical installations. They pointed out that the purpose of the *Electrical Installation and Inspection Act* is to ensure that electrical installations are installed and maintained in accordance with the *Canadian Electrical Code, Part I* and the *Electrical Code Regulations*. This is to provide a sufficient level of safety to protect persons and property from electrical fire and shock hazards.

Both Mr. Cormier and Mr. Bennicke are concerned with the qualifications of some persons currently doing installations. They are of the view that a high level of technical skill and an in-depth knowledge of the *Canadian Electrical Code* are required along with necessary hands-on experience. Because the *Electrical Installation and Inspection Act* does not distinguish levels of voltages in its definition of "electrical installation", permits can only be issued to individuals who hold a valid certificate in the electrical construction trade for all installations.

They further note that communications systems were originally installed by electricians and communication utilities. These utilities are exempted from inspection under Section 0 of the *Canadian Electrical Code*. However, approximately fifteen years ago, a number of non-electricians began installing computer cables and other communication systems. This has escalated because of deregulation in the telecommunications industry.

Another reason for the growth among non-electricians doing this work is the fact that the inspectors employed by Nova Scotia Power Incorporated have not required permits for communication installations. This is because Nova Scotia Power Incorporated takes the position that installations are only required to be inspected if a wiring permit has been issued to an electrical contractor.

Mr. Bennicke and Mr. Cormier note that in Ontario Section 60 was exempted as an electrical installation. The installation of electrical communications systems is not subject to inspection in that province. There is no permit or inspection requirement at all.

With respect to Nova Scotia, they are of the view that these installations should be covered by some method of regulation to ensure safety requirements are met.

The most difficult issue to address, in their view, is the competency of those doing the installations. One method of ensuring competency is to establish a form of trades training. This raises the issue of how the training is to be conducted and funded.

Further issues on the regulatory side involve the possible mandatory licensing of communications contractors across the Province. It may also be possible to move to an audit type permit system in which the contractor is responsible for ensuring that the installation is properly done and is subject to spot audits on a random basis.

In analyzing the existing form of Code regulation, it was pointed out that our existing system is essentially a "prescription based Code" which mandates what you need in a particular building in very specific terms.

Apparently the industry is moving towards a completely new set of codes which should be in place by the year 2001 and which are characterized as "performance based" codes. These simply set goals such as "you shall make a building fire safe". Under these

codes, the inspectors must be able to communicate effectively with engineers, architects, designers and contractors in the construction of buildings.

Mr. Bennicke also pointed out that another issue with respect to installation of electrical equipment by non-electricians is the installation of neon signs (which apparently is high voltage wiring). A training program for the installers of neon signs is being developed in New Brunswick by the Department of Labour in conjunction with the Neon Sign Association. These installations will then be required to be inspected and this is an issue that will have to be addressed in Nova Scotia as well.

2.

DEPARTMENT OF EDUCATION AND CULTURE

**COMMENTATOR: JOSEPH BLACK, ACTING DIRECTOR,
APPRENTICESHIP TRAINING**

Mr. Black provided extensive documentation and background material with respect to the course outlines, trade regulations and national occupational analyses for the trades of Construction Electrician, Industrial Electrician, and Industrial Instrumentation Mechanic.

Mr. Black also provided a chronological summary of complaints initiated by the International Brotherhood of Electrical Workers, Local 625 with respect to certain construction sites and the alleged use of a non-certified practitioners in the installing of various low voltage systems.

In summarizing the development of apprenticeship training programs in Nova Scotia, Mr. Black noted that apprenticeship has been in existence for over sixty years with very little change.

Traditionally, trades training was designed in consultation with the industry. As a result, there has been little involvement or consultation with others who work with new technologies and who do much of the low voltage installations.

In Ontario, there has been a movement away from the notion of compulsory trades training and to defining "restricted areas of work". Each area has a defined academic outline and course-based training modules which an individual can take. If the person passes a section of training, they are then able to work in that otherwise restricted area.

Training also permits the establishment of goals. For example, if safety is an issue in a particular area of work, then the module needs to ensure that the training gets you to a system of safe practices. Mr. Black notes that the training for journeymen and apprentice electricians is identical during the first two years regardless of whether you are training to be in the construction electrician trade or training to be an industrial electrician.

However, a number of the technological developments with respect to the installation of low voltage communications equipment have not been fully addressed under the existing training program.

Mr. Black summarized the issue concisely. In his view, the question is simply whether the work is being done by competent people in a safe and careful manner. If the answer to that is yes, then you can ignore the specific provisions of the *Electrical Installations Act*. In the final analysis, we simply need to ensure that the work is being done competently and properly.

Mr. Black notes that the Apprenticeship Training Division of the Department of Education and Culture has responsibility for governance, administration and management of the Apprenticeship Program, and for arranging training.

There is often overlap in the types of work performed in related trades. He notes that some of the tasks involving the installation of communications equipment are found in both the Construction Electrical and the Industrial Electrical training programs.

One difficulty for the Department is that when it receives complaints that work is not being done by certified electricians, it becomes the mediator or enforcement agency for what are really jurisdictional disputes over work assignments.

To summarize, Mr. Black takes the view that if personal and public safety are the overriding concerns, then the issue is not who does the work, but rather what training and experience are necessary to ensure that the work is done safely and competently.

3.

NOVA SCOTIA POWER INCORPORATED

**COMMENTATOR: DAVID CLEMENTS, CEI, CET
 CHIEF ELECTRICAL INSPECTOR
 ENGINEERING & MAINTENANCE**

Nova Scotia Power Inc. plays a regulatory role with respect to the granting of permits for electrical installations in the Province of Nova Scotia. This involvement developed historically from the fact that Nova Scotia Power was an electrical utility owned and operated by the Government of Nova Scotia prior to its privatization. Because it had persons competent in the inspection of electrical installations located in the Province, and because it was considered to be an agency of the provincial government, NSPI was the obvious choice to perform the electrical inspection function. Nova Scotia Power has inspected all electrical installations when buildings are constructed.

Following the deregulation of the telecommunications industry, an area where inspections had not been required because, as a public utility, the telephone company was exempt from inspection, it was unclear whether the installation of communications systems required inspection under the *Electrical Installation and Inspections Act*. If appropriate training has been provided to ensure that the necessary qualifications are in place, the result will be safe and competent installations.

To perform low voltage installations safely takes less training than the full certified trade training presently in place for journeymen electricians. Many of the technicians currently employed to install communications systems have been well-trained.

Mr. Clements provided copies of the current Application for Wiring Permit and Inspection, as well as the Table of Inspection Fees (Appendix "E"). Under the current

regulatory regime, Nova Scotia Power is required to do 100% inspection of all electrical installations.

It may be possible to implement a system of "sample inspections", which in effect is a spot audit approach to regulation. This could be done on a random basis, with the requirement simply being that there be a final inspection on every installation. Another approach would be to require a contractor to undergo a specified number of inspections based on the number of installations they do and taking into account their prior compliance history.

Nova Scotia Power is presently evaluating its role in the provision of inspection services throughout the Province.

4.

MARITIME TEL & TEL

COMMENTATORS: **D. D. (DON) MACDONALD, P. ENG.**
 REGULATORY MATTERS
 BRUCE HEGGIE, REGULATORY ADVISOR
 JANINE MUTCH, REGULATORY ADVISOR
 CYNTHIA ROBERTSON, VICE PRESIDENT, CCL

The Representatives of MT&T provided both written and oral submissions with respect to these issues.

MT&T has been committed, in its role as the provider of telecommunications services in Nova Scotia, to ensuring the highest standards of materials and workmanship for the citizens of Nova Scotia.

MT&T is subject to exclusive Federal jurisdiction and, under Section 0 and 60-108 of the *Canadian Electrical Code*, is exempted from provincial regulatory regimes.

MT&T has developed an extensive training program with respect to telecommunications installation. This training emphasizes safe work practices and ensures compliance with installation guidelines.

Mr. MacDonald noted that in assessing regulatory requirements, it is imperative to identify the differences between installing a power supply and installing telecommunications equipment and related wiring.

With respect to the former, which is the process of providing electrical power to a standard socket, a defined system of inspection and regulation is in place and is required.

However, telecommunications equipment is subject to specific regulation at the manufacturer's level. Furthermore, it is certified for electrical safety by the Canadian Standards Association (CSA) certification procedures. In addition, the equipment is low-voltage and the necessary standards to ensure protection on issues of shock and fire hazard are set forth in the *Canadian Electrical Code*.

Although MT&T acknowledges and accepts that the inspection of electrical power supply installation is necessary and appropriate, it submits that it is unnecessary to apply the same regulatory regime to telecommunications installation. As Mr. MacDonald points out, that work does not pose the same risks.

This is not to belittle the need to ensure that telecommunications installations are done to a set of well-defined standards of competency. The deregulation of the industry may have led to new players becoming involved, some of whom may lack experience and training. Their standards of installation may differ from those employed by MT&T.

However, MT&T is of the view that to impose a regulatory electrical regime for communications wiring installations is unnecessary. The marketplace will impose its own form of regulation on those in the industry.

Furthermore, communications wiring and the electrical energy utilized does not pose the personal shock or fire hazard present with the provision of commercial electrical power. Installation issues are related more to ensuring a quality communications medium.

MT&T takes the view that workable industry self-regulation will occur as a matter of marketplace realities. A government imposed regulatory scheme may well be both unnecessary and expensive.

Finally, to ensure competitive neutrality, any electrical and communications inspections to be undertaken should be done by municipal or provincial building inspectors.

With respect to the safety issues that have been addressed by others, MT&T notes that the major areas of concern such as fire safety or shock hazards are not issues of real significance in low voltage installations. In any event, Section 60 of the *Canadian Electrical Code* does address these areas. The work can be done by persons properly trained to comply with those requirements. This would not necessitate using a journeyman electrician.

MT&T's view is that as long as a set of standards to ensure safe and competent installation are established, they could be imposed in a manner that requires that the industry regulate itself and establish its own training modules. Contractors could be subject to licensing as has been done in Saskatchewan where a "Communications Permit" is given to contractors. They are then subject to losing the license if found not to be meeting the installation standards.

If training programs are to be implemented, MT&T would support having those done under the auspices of the Department of Education and Culture.

5.

CONSTRUCTION ASSOCIATION OF NOVA SCOTIA

**COMMENTATORS: CAROL MACCULLOCH, PRESIDENT
DONALD HILTZ, ELECTRICAL CONTRACTOR
GLEN HINES, TELECOMMUNICATIONS CONTRACTOR**

The Construction Association of Nova Scotia has among its membership a number of interested parties including electrical/communications contractors, security companies, electrical/communication equipment suppliers, general contractors, project managers and other firms that provide support services.

In developing recommendations, the Construction Association submits that public safety must be the overriding concern. However, performance standards also need to be clearly established. Furthermore, enforcement systems under a regulatory regime must be defined with clear objectives, a uniform province-wide application and able to operate at a reasonable cost.

In identifying the issues as described by the Construction Association, the need to set clear standards was identified. It appears as if there may be a difference between safety standards and quality standards.

Another issue to be addressed was that of the inspection system in place. Apparently, contractor members have found both timing and access to inspections to have been a problem. This suggests that staffing allocation may be an issue in the inspection function. For the contractor, the entire range of inspection issues, including who does it, how is it paid for, and when is it done, is a major focus point that appears not to have been identified in any significant way in the Terms of Reference.

The current licensing requirements which have permits taken out by a certified electrician might be replaced by the licensing of contractors. In combination with an

audit-based system of inspection, this could lead to a system of self-regulation that may be workable and cost-effective.

The current practice with respect to the installation of low voltage communications systems is to run all communications cable in separate spaces or pathways in order to ensure the maximum level of service quality. This provides a level of protection with respect to safety issues.

Representatives of the Association point out that the current standard of training requires two years of electronics-based training because the communications installation industry is more akin to the electronics industry than the electrical industry. This includes taking industry related courses provided by organizations such as BICSI or training provided by the manufacturers of the equipment.

The issue of the "underground economy" was also raised by the Construction Association representatives. Approximately 8,000 individuals involved in the construction industry in Nova Scotia in 1996, and one-third of those were self-employed.

The Construction Association also suggested that there was a clear appearance of a conflict of interest in having Nova Scotia Power conduct inspections of communications installations. This is because NSPI is becoming a part of the industry itself.

The Construction Association identified the issue of low voltage installation as basically a jurisdictional issue involving who will get the work. Those who sell low voltage products and installation equipment claim that approximately 85% of the purchasers of their product are communications installers and not electrical contractors.

The Construction Association believes that Nova Scotia has an opportunity to develop a progressive approach that will be useful for other provinces in Canada by

establishing a secondary or split licensing of individuals through the use of occupational certifications in combination with the licensing of contractors. This could be along the lines of a communication installation license.

6.

**INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS,
LOCAL UNIONS 625 AND 1852**

**COMMENTATORS: FERN J. TARDIF, BUSINESS MANAGER AND
 FINANCIAL SECRETARY, LOCAL 625
 GERRY SHANAHAN, BUSINESS MANAGER,
 LOCAL 1852**

The I.B.E.W., Locals 625 and 1852, take the position that each type of electrical installation is as important as all others being installed on a particular construction project.

The I.B.E.W. takes the view that the installation of low voltage systems are covered under the *Electrical Installation and Inspection Act* and the *Canadian Electrical Code*. Thus, they must be installed by an electrical contractor employing a certified electrician and are subject to the issuance of a permit and the conducting of an inspection.

Furthermore, Mr. Tardif provided a copy of the course outline for the Electrical Construction Trade which is in the process of being upgraded. Several of the educational modules involve low voltage systems.

The I.B.E.W. submits that there are serious safety ramifications for persons performing this work and for the consumers of the services.

There are many requirements of the *Canadian Electrical Code* that may overlap with others when installing electrical systems. A certified electrician is aware of and deals with these overlapping requirements daily. In the view of the I.B.E.W., it is not sufficient to know how to install a specific low voltage system without being aware of the potential effect or ramifications throughout the building.

Mr. Tardif also points out that there are employment implications for electrical contractors forced to compete with persons employing non-certified technicians.

Mr. Tardif further points out that the credibility and integrity of the Electrical Construction Trade would be damaged if the trade is split into different subsections.

Mr. Tardif also noted that many of the issues that have arisen with respect to low voltage installations came as a result of the deregulation of telecommunications installations previously done by MT&T. That Company is exempted from the application of the *Canadian Electrical Code*.

New companies came into existence which the Union understood were in the business of designing the equipment to be installed. They believed the actual installation would be done by certified electricians. Those who designed the equipment would be able to maintain the system after its original installation.

However, the new companies actually began to install the systems, and that is a violation of the Code requirements.

In Mr. Tardif's view, to apply the Code to the installation ensures a safe and competent installation. Once verified through the appropriate inspection regime, the manufacturer's technicians can do the on-going maintenance work.

Safety issues that were identified include having a system tied into the main electrical power source for the building, ensuring that systems are properly grounded, regulating access to the electrical room and the ensuring the integrity of firewalls and adjacent cables.

Mr. Tardif also pointed out that the problem is far more than simple the installation of communications systems. It includes security, heating, lighting and cable

for internet access. It was further noted that inspections should be moved into the sole jurisdiction of the Department of Labour and the Fire Marshal's office.

7.

NOVA SCOTIA TELECOMMUNICATION CONTRACTORS ASSOCIATION

**COMMENTATORS: SEAN KERSEY, VICE PRESIDENT, FIBRETEK INC.
NEIL W. CHAMBERS, ATLANTIC NETCOM
GLEN HINES, DRAMIS NETWORK CABLING LTD.**

The Nova Scotia Telecommunication Contractors Association was formed in 1997 to address proposed changes in the way communications installations are conducted in Nova Scotia. The Association represents a cross-section of businesses involved in such communications areas as telephone, cable television and computer networking.

The Association wants to encourage the establishment of standards of performance and safety along with the development of a program of training and education for those involved in the communication industry in Nova Scotia.

The Association also addressed the Report to the Minister of Labour prepared by the Working Committee chaired by the Chief Electrical Inspector for the Province (Appendix B). The Association was concerned that the focus of the Committee's report with respect to low voltage and communications cabling was to the effect that such work fell within the sole jurisdiction of the electrical industry. This included a recommendation that all firms engaged in telecommunications and low voltage installations be subject to a licensing requirement that would require a licensee to employ journeymen electricians.

The Telecommunication Contractors Association notes that many of the communication companies operating in Nova Scotia employ highly skilled communication professionals who are not certified electricians.

In spite of the fact that issues such as fire risk and electrocution have been raised, the Association submits that its contractors do not interface with electrical panels or

circuits. With respect to the issue of fire stopping and the volume of cables in a ceiling space, the Association members comply with industry standards and guidelines with respect to fire stopping and cable installation.

Members of the Association have invested a significant number of man hours and dollars in the technical training of their employees. To require that they utilize certified electricians would substantially increase the cost to consumers of their product, potentially eliminate a highly skilled workforce and thus increase unemployment, and possibly lead to persons with little skill or knowledge in the installation of these systems becoming responsible for them.

The Association points out that communications installations is an industry based on standards well established by manufacturers. Almost all tasks that a technician performs are governed by a pre-established Code or standard. BICSI is one of the organizations that teaches and offers certification for technicians through an internationally recognized curriculum.

The Association submits that the telecommunication industry is an industry onto itself and is not a sub-discipline of the electrical industry. Electricians deal in megawatts and kilowatts; communication technicians deal in bytes.

The Association points out that Ontario has deleted the application of Section 60 of the *Canadian Electrical Code* from their regulatory electrical legislation. The Association agrees that communications installation should be separate from electrical power installation and submits that Nova Scotia should create a separate designated trade for communications.

This would also, in the view of the Association, place Nova Scotia in the forefront of locations for investment opportunity in the new information technology industries.

The Association is not opposed to industry regulation and in fact welcomes it. However, it is of the view that that regulation should be in the communications field including the establishment of an educational system with a defined communications curriculum.

Furthermore, the Association supports changes in the existing legislation and inspection process to ensure that contractors in the telecommunications industry meet or exceed all existing safety requirements in the installation of communication systems.

The Telecommunications Association prepared a draft legislative regime for consideration. It was based upon a model used in Oklahoma and contemplates the establishment of a Board of Telecommunications and Information Technology Systems Contractors which would have the authority to issue Telecommunications Licenses to persons qualified to engage in the business of designing, installing, altering, servicing or testing telecommunications or information technology systems.

Under that legislative regime, it would be necessary to achieve qualification for licensing by passing appropriate examinations.

8.

BUILDING INDUSTRY CONSULTING SERVICES, INTERNATIONAL (BICSI)

**COMMENTATOR: RONALD G. PROVOST, RCDD
BICSI GOVERNMENTAL RELATIONS
REPRESENTATIVE**

As noted from the Terms of Reference, BICSI was to be contacted to provide background information on the issues being addressed. To that end, Mr. Ronald G. Provost from BICSI's New Jersey office provided very extensive background training materials developed for training programs used in the United States and Canada.

BICSI is an organization located in 57 countries with over 12,000 members including 500 members in Canada.

Originally established with a focus on the education of architects, BICSI has grown rapidly as a result of the deregulation of the telecommunications industry in North America.

As an organization, BICSI takes the position that the industry is a competitive one and opposes any automatic assignment of the work to a particular group. In other words, if a person is able to do the work safely and competently, then that person should have an opportunity to compete for the work.

Mr. Provost made the point that telecommunications installers are different from certified electricians in the work that they do. He submitted that the only thing the two have in common is wire.

Mr. Provost noted that the important aspect of regulation is to ensure the establishment of competency standards. In the United States, Rhode Island and Massachusetts have addressed competency issues. In Massachusetts, existing

telecommunication contractors have been grandfathered but any new entry to the industry must show that their employees have been trained appropriately.

On the inspection side, Mr. Provost noted that there are issues with respect to the competency and training of inspectors.

Training for installation technicians is now available in the industry through a number of mechanisms. Manufacturers' representatives provide on-site training because they wish to ensure that all of the warranty conditions that they provide are met. Training manuals and modules are extensively utilized.

BICSI follows a three level approach to training: (1) become an apprentice; (2) become an installer; and, (3) become a technician. The movement from one level to the next is progressively more complex and sophisticated.

BICSI has identified that the reason that this has become a substantial issue is because, at least in the United States, there were a number of jurisdictional claims by unions wishing to expand the work available for their members.

An appropriate regime should ensure the competency of the personnel doing the installation, the licensing of contractors engaged in doing the work, and the inspection of the worksites.

Mr. Provost noted that essentially everything to do with telecommunications installations today is a plug-in technology. Furthermore, typically there is no voltage actually applied until the customer takes over the equipment.

Although electricians are responsible for ensuring that necessary power outlets are wired to the building, BICSI is of the view that electricians should not have an automatic

claim to the installation of the various services that will be operated from these power sources.

Thus, it is important to distinguish between the provision of the power source, which is work that falls within the jurisdiction of the certified electrical trade, and the installation of low voltage systems, which have an entirely different set of installation standards and training requirements.

One possibility that Mr. Provost suggested was the establishment of a separate communications regulatory agency to ensure the establishment and enforcement of training and installation standards. Such an agency would license those engaged in the industry and, through the fees collected, would be substantially self-funded.

9.

**THE CANADIAN ALARM AND SECURITY ASSOCIATION -
ATLANTIC CHAPTER**

**COMMENTATORS: A. H. (SANDY) HISLOP, PRESIDENT
DON SMALL, VICE PRESIDENT
JOSEPH POWER**

The Canadian Alarm and Security Association - Atlantic Chapter made both written and verbal submissions on the issues to be addressed in this report.

The Association was founded in 1997 and represents approximately 900 companies across Canada. Its objectives are to assist the industry in representing its concerns to various levels of government.

Companies engaged in the security industry install intrusion alarm systems, access control systems and surveillance systems such as closed circuit TV cameras and monitors.

One of the major initiatives of the Association is to work with governments to establish regulatory structures to meet the needs of the customer, the industry and the responding authorities such as police and fire departments in order to provide security for homes and businesses.

The Association participated in the Working Group on the quality control of electrical installations.

The Association is interested in the issue of low voltage installation of communication devices because their members are also engaged in an industry which involves low voltage electronic installations. Indeed, the Association has applied to the Provincial Apprenticeship Board for trade designation and has asked that the Electrical

Code Regulations be revised to allow the contractors who install security systems to obtain wiring permits.

Whereas certified electricians work with substantial voltages, in this industry the voltages are normally fifty volts or less. The work does not involve entry into main power sources but rather has its power source accessed through plug-ins.

Therefore, the work performed by employees of these companies does not, in the view of the Association, raise issues of safety.

Furthermore, the technology is leading to a considerable degree of wireless services. In the security installation industry, standards have been established and specific training programs developed.

To that end, the Association has asked the Provincial Apprenticeship Board to consider the institution of a 6,000 hour apprenticeship program with a grandfathering provision for those who have three years experience in the industry.

The grandfathering proposal would require that those persons currently working in the industry must pass an examination to establish that they have the knowledge and experience to act as a certified technician.

The Association understands that the Provincial Apprenticeship Board has accepted their request for trade designation along with the required revision to the Electrical Code Regulations. However, the process is presently on hold pending the completion of this Report. Each year of the apprenticeship training program has been developed and is based on the Association's Security and Alarm Technician Education Program.

10.

**NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION -
ELECTRICAL SECTION OF THE CONSTRUCTION ASSOCIATION
OF NOVA SCOTIA**

**COMMENTATORS: JEREMY A. FRY, GENERAL MANAGER
ATLANTIC REGION, AINSWORTH ATLANTIC
GARY W. JENNEX, G.S.C., GENERAL MANAGER
ABLE ELECTRIC LTD.
CLAUDE PEACH, PRESIDENT, LYNK ELECTRIC**

Although the Construction Association of Nova Scotia, as has been noted, provided both written and verbal submissions, certain members of the Electrical Section also met separately and provided both written and verbal submissions.

These electrical contractors are engaged both in electrical construction activities and in the installation of communications systems. They do the entire range of activities.

They submit that there is no clear-cut answer to the issues being raised. In looking at the various submissions that had been circulated, they considered many to be very self-serving in nature.

One area of regulation that was felt to be appropriate was to have a licensing program established for all companies engaged in these installations.

Another point made by members of the Electrical Section of CANS is that safety and quality issues often get confused but in fact are very different. The latter does not need regulation.

Another area that needs to be addressed has to do with the level of expertise of engineers and architects. To some extent, in the view of these parties, the training of

engineers and architects has not kept up with the rapid development in technology. As a result, owners of communications systems are not properly advised as to what is available.

This has resulted in manufacturers stepping into the void by marketing and selling their systems directly to owners of building sites, thus bypassing the normal approach to construction and installation.

This group had significant concerns with respect to what appears to be a conflict of interest if the current inspection authority, Nova Scotia Power, is involved in the business of communications installations.

On behalf of the electrical contractors, Mr. Jeremy A. Fry of Ainsworth Atlantic, in reviewing the written submissions that had been made, submitted that all of them were "self-serving, do not focus on the 'big picture', and in some cases are incorrect".

Furthermore, the electrical contractors are of the view that, although there is a need for some change, this can be achieved by careful revision of present legislative and regulatory regimes.

This group was able to provide a copy of a National Labour Market Study entitled "Connecting with the Future". That Study was prepared under the guidance of a joint committee of the I.B.E.W. and the Canadian Electrical Constructors Association. It was published in November of 1997.

The Study attempted to address what the industry needed to do to meet the rapidly changing marketplace. It developed various strategies for the future of the industry.

The Study identified that the trends for work in the future involves new technology areas such as communications cabling, fibre optics, programmable logic controllers ("PLCs") and energy conservation.

With respect to assessing the current level of skills of Electrical Workers in Canada, the Study revealed that contractors appeared satisfied with basic technical skills but were slightly less satisfied with the skills that are necessary for these newer areas of work..

One of the defined strategies would be to expand the knowledge base of the electrical worker away from the power source work and into training with respect to distribution networks.

In the final analysis, the Study emphasizes the need to provide a constant upgrading of skills and training opportunities, as well as developing strategic alliances with manufacturers, suppliers and designers to ensure the development of a broad range of marketing opportunities promoting the use of qualified electricians.

11.

**THE NOVA SCOTIA HOMEBUILDING ASSOCIATION -
TECHNICAL RESEARCH COMMITTEE**

COMMENTATOR: PAUL A. PETTIPAS, CHAIRPERSON

Mr. Paul A. Pettipas, Chairperson of the Technical Research Committee of the NSHBA, provided a written submission.

The NSHBA represents a number of companies involved in residential construction in Nova Scotia.

The Technical Research Committee reviewed the document entitled "Working Group and the Quality Control of Electrical Installations". The Committee accepts the need to have certified electricians when dealing with high-voltage applications.

However, the Committee is of the view that low voltage installations require different skills. Safety concerns, although not entirely non-existent, are clearly not as critical as in a high voltage situation.

The experience of members of the NSHBA has been that the installation of telephone wire, security systems and other communications installations are currently being performed by competent and well-trained persons.

The contractor or the individual engaged in residential construction should have the option on whether to hire an electrician or to use another skilled technician.

The Committee is further concerned about increased costs through increased regulation. It submits that such additional regulatory environments should not be undertaken lightly.

12.

HALIFAX CABLE

COMMENTATOR: LEE BRAGG

Mr. Lee Bragg presented a verbal submission with respect to the existing regulatory regime.

Mr. Bragg was of the view that the existing legislation was insufficient to set guidelines for a rapidly developing industry.

He suggested that it was important to develop a set of standards to insure the provision of quality from a communications standpoint. However, his experience with the sorts of installations being done is that safety should not be real concern and all necessary precautions are being taken.

Furthermore, the industry provides a substantial and effective degree of self-regulation through quality control assurances and random inspections.

Mr. Bragg pointed out that, in his view, the running of communications wiring is significantly different from electrical wiring. There is no involvement in the actual connection to power sources without proper inspections. That work is done by a certified electrician.

13.

ACCESS COMMUNICATIONS INC.

**COMMENTATOR: DAVID CRAGG, P. ENG.
VICE PRESIDENT, ENGINEERING AND
BUSINESS DEVELOPMENT**

Mr. David Cragg on behalf of Access Communications Inc. provided both written and verbal submissions.

Access Communications Inc. is a full service telecommunications company utilizing technical professionals to install, service and maintain their networks.

In its submission, Access considers this situation as applying to all telecommunications (voice, data and video) providers. It impacts on their contractors, consultants, systems integrators, vendors, industry associations and the general public.

Access has been operating its video networks for twenty-five years and offers Nova Scotians a full spectrum of services. They have invested substantial monies in the installation, service and maintenance of their existing network infrastructure.

Access takes the position that its network professionals have been trained and certified both by themselves and by third party industry groups. Furthermore, the installation of customer drop cabling provides no exposure to power sources because of the passive nature of these systems.

The skill sets and training programs developed for telecommunication industry professionals recognize all possible safety concerns.

That model of training has been used from the inception of the voice and video industries and it has worked very well. The existing legislative regime governing electrical installations is simply not appropriate and is out of date with respect to this work.

Access submits that a regulatory regime that recognizes the industry as separate and apart from the electrical industry is necessary. The services being provided by companies such as Access have changed significantly. Up to approximately five years ago, the industry was relatively static and only included the video distribution of programming to residential customers.

However, with on-going technological developments, the business has expanded into video, voice and data distribution.

The nature of the services being provided include taking a feed from a central processing facility, adding to it, and then distributing it to customers.

Whenever the electrical voltages involved in their systems are reduced from a high voltage to a low voltage power source, journeymen electricians are employed and the work is inspected.

However, the installation of low voltage systems has no power implications in a customer's resident and is competently done by trained professionals.

The work done by Access is essentially a hybrid operation. There is fibre optic installation which is completely passive and transports laser signals, and co-axial which is a low voltage installation. Mr. Cragg also pointed out that for years low voltage installation of telephones was done exclusively by telephone companies who were excluded from the provisions of the *Canadian Electrical Code*.

In terms of the current installation of low voltage communication systems, Access has developed relationships with a number of telecommunications companies. They have continued to be satisfied with the quality of work and the level of training of the technicians employed by those companies.

Mr. Cragg suggested that self-regulation is a model that may well be appropriate. Because of the concern in the industry over providing an excellent level of customer service, it is his view that the industry and market conditions will quickly "weed out the cowboys".

Access is also of the view that, for low voltage installations, it would not be difficult to set up a third party regulatory agency to ensure that regulation and licensing is appropriately done. However, it is necessary that any licensing/permit scheme be both cost-effective and time responsive.

14.

INTERNATIONAL UNION OF ELEVATOR CONSTRUCTORS, LOCAL 125

COMMENTATOR: GARLAND INGRAHAM, BUSINESS REPRESENTATIVE

The International Union of Elevator Constructors, Local 125 made both written and verbal submissions on the issues raised by this investigation. The concern of the Elevator Constructors Union is that, while they have no direct interest in the matter of electrical installation of communications equipment, their work does entail electrical related installations.

Members of the Elevator Constructors Union are involved in the construction and maintenance of elevators, escalators, dumb-waiters, and all similar equipment and conveying systems used for transporting persons, things or materials. All related wiring, conduit and raceways work from the main line feeder terminals on the controller to the various equipment and operating circuits has been done by members of the Elevator Constructors Union.

Furthermore, that jurisdiction has been confirmed by the Construction Industry Panel of the Labour Relations Board (Nova Scotia).

Essentially the work performed by members of this Union involves installations from a controller located within a building which controls all of the operations of the elevators and other transporting equipment in that particular building.

The Elevator Constructors Union regards its work as completely different from the work electricians do. This includes the types of installation drawings that need to be read and the actual work being performed.

To that end, there has been specific training modules developed for elevator installers. Individual companies have developed their own distinct and sophisticated training programs.

Given the nature of the industry, safety issues are a significant aspect of all training programs. Mr. Ingraham further pointed out that elevator installations are inspected directly by officials employed by the Department of Labour and not by electrical inspectors employed by Nova Scotia Power.

15.

ATLANTIC COMMUNICATION AND TECHNICAL WORKERS UNION

COMMENTATOR: CARL E. SIMPSON, BUSINESS MANAGER (FORMER)

The Atlantic Communication and Technical Workers Union, through its former Business Manager, Carl Simpson, made a verbal submission.

This Union is very concerned about the regulation of electrical installations involving low voltage systems because it is the Union representing employees of MT&T.

The ACTWU is of the view that there are no significant safety issues involved in this form of installation. Some form of regulations is warranted to ensure that standards of qualifications to do the work are established.

However, that does not require that the person be a certified electrician. Rather, it requires training to understand the basic issues being faced throughout the installation.

16.

**INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS,
LOCAL 1928**

COMMENTATOR: GORDON F. KEELING, BUSINESS MANAGER

Gordon F. Keeling, Business Manager of the I.B.E.W., Local 1928 made a written submission

Local 1928 represents the employees who work for Utility Contractors under a signed Collective Agreement. It also represents certain employees of Nova Scotia Power.

This Union represents employees who are engaged in low voltage installation for a classification of employee referred to as a "Cableperson". The I.B.E.W., Local 1928 is adamant that it wishes to maintain both the work and its jurisdiction.

17.

WESTERN ELECTRICS LTD.

COMMENTATOR: TIBOR BERTA

An individual written submission was received from Tibor Berta of Western Electrics Ltd. who provided extensive background material.

Western Electrics Ltd. is an electrical contracting firm operating in Nova Scotia.

Mr. Berta points out that Nova Scotia Power Inc. does not require a permit to perform the installation of communications work which, for years, was carried out by MT&T workers.

Furthermore, the training for telecommunications installations is not a specific part of the current curriculum for electrical apprentices. In Mr. Berta's opinion, the issue is a "jurisdictional grab" by the Union and several "self-serving electrical contractors".

Western Electrics Ltd. further submits that an appropriate training system could be established to fulfil the requirements of customers in a safe manner utilizing highly qualified persons at reduced costs.

Essentially, any contractor should be permitted to bid on a project involving telecommunications wiring as long as they employ competent and qualified individuals.

18.

DOUG LANDRY
MEMBER OF THE WORKING GROUP ON QUALITY CONTROL
OF ELECTRICAL INSTALLATION

A written submission was received from Mr. Doug Landry of St. Peter's, Nova Scotia, who was a member of the Working Group on Quality Control of Electrical Installations.

Mr. Landry is of the view that there should be some control over the installation of telecommunication systems. He suggests that existing companies should be given the required time to have their staff trained as construction electricians.

In the alternative, it should be possible to develop a grandfathering provision to allow existing companies to continue as at present albeit with a requirement that the work must be inspected.

19.

KELTIC INCORPORATED

**COMMENTATOR: JAMES R. THOMPSON, EXECUTIVE VICE PRESIDENT
AND CHIEF OPERATING OFFICER**

A written submission was received from James R. Thompson, Executive Vice President and Chief Operating Officer of Keltic Incorporated.

Keltic is a consumer of communication products and services and a supplier of technology solutions to customers throughout Atlantic Canada.

As a result, they are concerned that their traditional sources of technical expertise in the telecommunications cabling industry may change if the work must be performed by certified electricians.

Keltic is required to provide clients with services that meet or exceed North American structured wiring standards as well as European and International standards applicable to high-speed data transfer.

They have utilized suppliers in Nova Scotia who have expertise in telecommunications, have familiarity with current and proposed standards, have demonstrated quality control systems, and have had a significant involvement with the telecommunications industry.

Keltic takes the position that telecommunications is a distinct industry involving data transfer and should not be included within existing electrical legislation.

